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Bayford, Richard and Solà, Josep (2016) 'EIT2015: promoting electrical impedance tomography as a non-invasive monitoring technology' [Editorial], *Physiological Measurement*, 37 (6). E3-E4. ISSN 0967-3334

This issue of *Physiological Measurement* follows the successful 16th International Conference on Biomedical Applications of Electrical Impedance Tomography (EIT) held in Neuchâtel, Switzerland, on 2–5 June 2015. The conference was hosted by Josep Solà and Fabian Braun (CSEM, Neuchâtel, Switzerland), and Andy Adler (Carleton University, Ottawa, Canada).

As an accomplished example of the multidisciplinary of EIT, the conference aimed at joining the efforts of the EIT academic and industrial communities, with goals as diverse as improving and miniaturizing EIT instrumentation, optimizing interfaces with patients and physicians, enhancing and accelerating reconstruction algorithms, exploring the use of EIT technology for new clinical applications, and transferring mature developments into clinical realities. In addition to the 87 research works presented during the event, three invited speakers shared their own view on the future of EIT: Professor A Adler on the challenges of EIT algorithms, Dr T Mauri on the potential of EIT in overcoming lung-related clinical challenges, and Dr F Suarez-Sipmann on the potential of EIT in advancing the non-invasive monitoring of hemodynamic parameters. The take-home message of the keynote speakers joined the general agreement that the future of EIT resides in its exploitation as an advanced non-invasive monitoring technology, rather than a low-resolution imaging modality. A number of key organizations sponsored the conference, including nano-tera.ch (CH), bioalps (CH), Dräger (DE), ScioSpec (DE), SICHH (CH), Swisstom (CH) and IOP Publishing (UK).

This issue contains scientific material stemming from the conference presentations and feedback received from the community. In total, 87 accepted research works were presented at the conference, of which 65 were oral presentations and 22 were posters. All authors were invited to contribute with a research paper to this issue of *Physiological Measurement*. The manuscripts were put through a process of careful peer-review before selection. A total of 16 were accepted and cover most of the conference topics.

The interdisciplinarity of the research papers presented in this special issue is proof that EIT is a rich and challenging research field. But more important is to note the increasing influence of clinical entities and industrial partners on the exploitation of EIT applications in the biomedical field. After years of research and development, EIT is now maturing to an innovative non-invasive and non-ionizing technology to provide clinicians with continuous monitoring of respiratory lung function and hemodynamic variables. Joint work is now needed by all for this technology to be adopted in routine clinical practice.

The 16th International Conference on Electrical Bio-Impedance (ICEBI2016) and the 17th Conference on Electrical Impedance Tomography (EIT2016) will take place from 19 to 23 June 2016, in Stockholm, Sweden.